

PROJECT I.D. 1060-33-01
INTERSTATE I-94, I-894, AND U.S. HIGHWAY 45
(ZOO INTERCHANGE)
124TH STREET TO 70TH STREET
LINCOLN AVENUE TO BURLEIGH STREET

MILWAUKEE COUNTY, WISCONSIN

DRAFT ENVIRONMENTAL IMPACT STATEMENT
and Section 4(f) Evaluation

Submitted Pursuant to 42 U.S.C. 4332(2)(c) and 49 U.S.C. 303
by the

U.S. Department of Transportation, Federal Highway Administration
and the
State of Wisconsin Department of Transportation

Cooperating Agency

U.S. Army Corps of Engineers (pursuant to 33 CFR 230)

APPROVALS

5/20/2009

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ABSTRACT

The Zoo Interchange study area includes I-94 from 124th Street to 70th Street and the north-south U.S. Highway 45/I-894 corridor from Lincoln Avenue to Burleigh Street in Milwaukee County. This freeway corridor has deteriorating pavement, safety issues, and design deficiencies including left-hand entrances and exits and sharp curves. As time passes and traffic increases, safety, pavement, and operations on this corridor will continue to deteriorate. Development growth in the area is expected, increasing traffic volumes 18 percent by 2035. The Environmental Impact Statement evaluates the social, environmental, and economic impacts of the No-Build Alternative and a range of Build Alternatives, as well as the extent to which these alternatives address the project's purpose and need.

Comments on this Draft EIS are due by July 13, 2009 or 45 days after the Notice of Availability is published in the Federal Register, whichever is later, and should be sent to:

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National Environmental Policy Act Statement

The National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. 4332) requires that all federal agencies prepare a detailed Environmental Impact Statement (EIS) for major federal actions that will significantly affect the quality of the human environment. The Federal Highway Administration (FHWA) is therefore required to prepare an EIS for proposals funded under its authority if such proposals are determined to be major actions significantly affecting the quality of the human environment.

The EIS process is carried out in two stages. The **Draft EIS** is circulated for review by federal, state, and local agencies with jurisdiction by law or special expertise, and made available to the public. The Draft EIS must be made available to the public at least 15 days before the public hearing, and no later than the first public hearing notice. A minimum 45-day comment period is provided from the date the Draft EIS availability notice is published in the *Federal Register*. WisDOT must receive agency comments on or before the date listed on the front cover of the Draft EIS unless a time extension is requested and granted by WisDOT. After the Draft EIS comment period has elapsed, work may begin on the Final EIS.

The **Final EIS** includes the following:

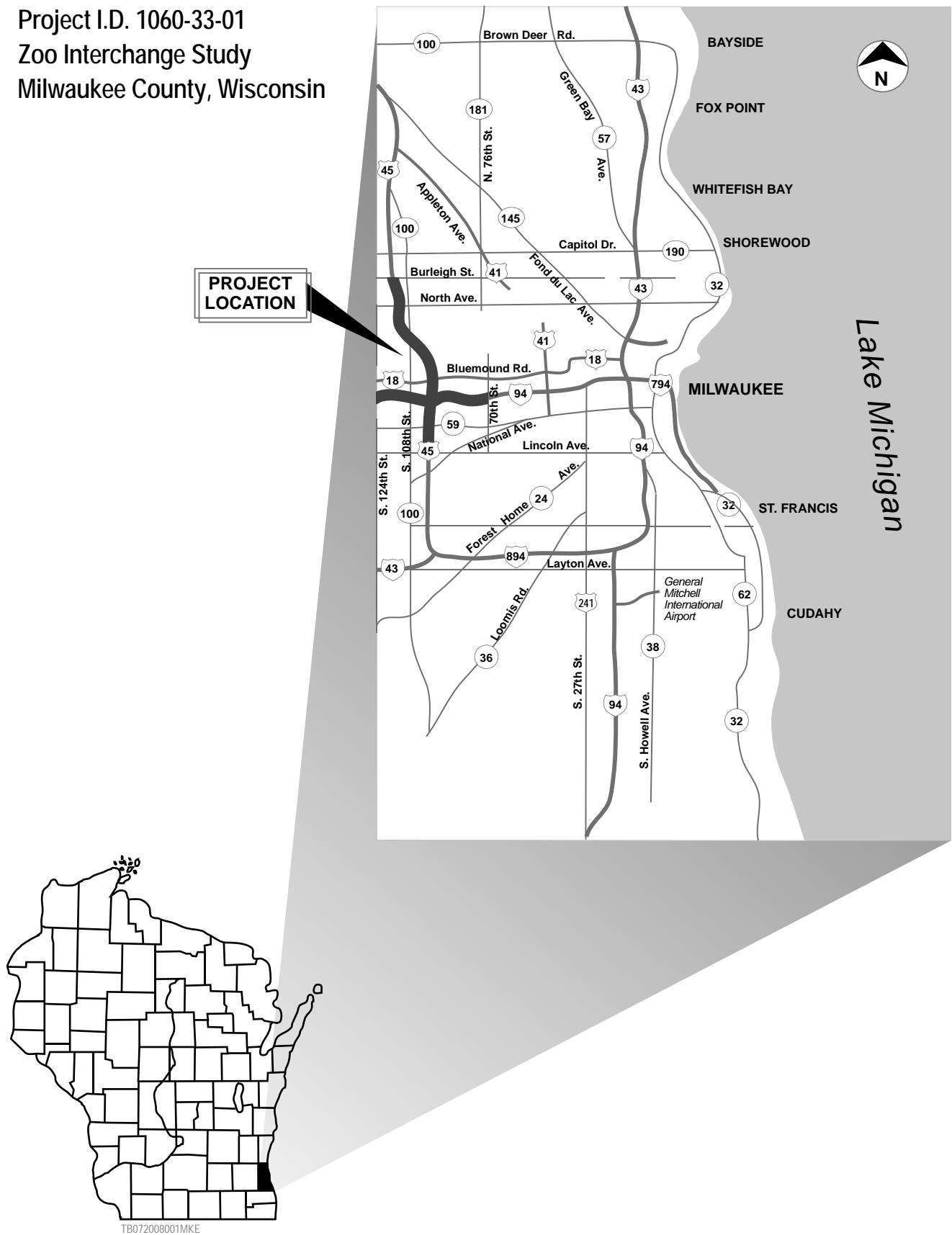
1. Identification of the preferred course of action (alternative) and the basis for its selection.
2. Basic content of the Draft EIS along with any changes, updated information, or additional information as a result of agency and public review.
3. Summary and disposition of substantive comments on social, economic, environmental and engineering aspects resulting from the public hearing/public comment period and agency comments on the Draft EIS.
4. Resolution of environmental issues and documentation of compliance with applicable environmental laws and related requirements.

Final administrative action by FHWA (Record of Decision) cannot occur sooner than 90 days after filing the *Draft EIS*, or 30 days after filing the *Final EIS* with the U.S. Environmental Protection Agency (U.S. EPA). Both the Draft and Final EIS are full-disclosure documents that provide descriptions of the proposed action, the affected environment, alternatives considered and an analysis of the expected beneficial or adverse environmental effects.

A federal agency may publish a notice in the *Federal Register*, pursuant to 23 USC §139(l), indicating that one or more federal agencies have taken final action on permits, licenses, or approvals for a transportation project. If such notice is published, claims seeking judicial review of those federal agency actions will be barred unless such claims are filed within 180 days after the date of publication of the notice, or within such shorter time period as is specified in the federal laws pursuant to which judicial review of the federal agency action is allowed. If no notice is published, then the periods of time that otherwise are provided by the federal laws governing such claims will apply.

Project Location

Project I.D. 1060-33-01
Zoo Interchange Study
Milwaukee County, Wisconsin



Summary

Summary

Description of the Proposed Action

The proposed action is to reconstruct the Zoo Interchange and the adjacent Interstate 94 (I-94), Interstate 894 (I-894), and United States Highway 45 (US 45) approaches. The scope of the proposed action includes rebuilding the mainline roadway and bridges; modifying interchange access to improve safety and traffic flow; reconstructing local streets affected by the freeway reconstruction; and enhancing the aesthetic appearance of the reconstructed freeway. The proposed action would accomplish the following:

- Maintain a key link in the local, state, and national transportation network
- Address the obsolete design of the study-area freeway system to improve safety
- Replace deteriorating pavement and bridges
- Accommodate future traffic volumes at an acceptable level of service

The project would neither require nor foreclose future transportation improvements adjacent to the study area. The proposed action would provide a safe and efficient transportation system in the Zoo Interchange while minimizing impacts to the natural and built environment, to the extent feasible and practicable.

The study-area termini are 124th Street on the west, 70th Street on the east, Burleigh Street on the north, and Lincoln Avenue on the south. The service interchanges at Highway 100 at I-94, Greenfield Avenue, 84th Street, Bluemound Road, Wisconsin Avenue, Watertown Plank Road, Swan Boulevard, Highway 100 at US 45, and North Avenue are included in the study because of their proximity to the system interchange, and to each other on the north leg, and their effect on traffic flow (**Exhibit 1-1**).

The Wisconsin Department of Transportation (WisDOT) and the Federal Highway Administration (FHWA) are the lead state and federal agencies, respectively, for this project.

Purpose of and Need for the Project

The purpose of the project is to address the study-area freeway system's deteriorated condition, obsolete design of the roadway and bridges, current and future capacity, and high crash rate. A combination of factors demonstrates the need for the transportation improvements in the Zoo Interchange corridor:

- Regional land use and transportation planning growth forecasts – The Southeastern Wisconsin Regional Planning Commission's (SEWRPC's) 2003 *A Regional Freeway Reconstruction Plan for Southeastern Wisconsin* identifies the need for additional freeway traffic lanes on the study-area freeway system.

- System linkage and route importance—I-94 is a major east-west freeway link across the northern United States, connecting Detroit, Chicago, Milwaukee, Madison, St. Paul, and Minneapolis with I-90 in Billings, Montana. I-894 is a bypass around Milwaukee for through traffic and provides an important freeway connection for several Milwaukee County communities. US 45 is a north-south highway link connecting the Upper Peninsula of Michigan, Oshkosh, Fond du Lac, West Bend, Milwaukee, Chicago's O'Hare International Airport and points south.
- Existing and future traffic volumes—The Zoo Interchange carries more than 345,000 vehicles on an average weekday—more than any other freeway interchange in Wisconsin. Current (2004) traffic volumes on study-area freeway legs surrounding the Zoo Interchange range from 152,000 vehicles per day (vpd) to 174,000 vpd. By 2035, traffic volumes are expected to rise to approximately 164,000 vpd to 192,000 vpd. This represents an 18 percent traffic increase over the current conditions.
- Safety—From 2001 to 2005, there were 4,522 crashes (not including deer/other animal crashes) on the freeway and interchange entrance/exit ramps, or roughly two crashes per day. Crash rates in the study area are up to five times higher than other similar freeways in the state.
- Existing freeway conditions and deficiencies—The study-area freeway system was completed in 1963. Over the years, the concrete pavement has become worn and cracked. WisDOT resurfaced I-94 and US 45 in the mid-1970s and I-894 in the early 1980s, which returned a smooth riding surface to the roadway but did not address the pavement cracks or the voids in the gravel base under the pavement. Since then, WisDOT resurfaced I-94 again in the late 1990s and I-894 and US 45 a second and third time, most recently in the early 2000s. The structural condition of the study-area freeway system bridges is an important factor in the need for the proposed action. The condition of the bridges has deteriorated over the years due to age, heavier than expected traffic, road salt, freeze-thaw cycles, and water entering cracks in the bridges. Though the bridges are safe to drive on currently, five meet only minimum standards, defined as “meets minimum tolerable limits to be left in place as is,” and several more are anticipated to deteriorate to minimum standards in the near future. In addition to the physical condition, there are other substandard design elements, such as inadequate ramp spacing, low bridges, and sharp curves. Perhaps the most notable existing design issue is the combination of left- and right-hand entrance and exit ramps that impact traffic flow as drivers are required to weave across several lanes. This is a safety issue and having both left- and right-hand exits violates driver expectations.

Section 1, Purpose of and Need for the Proposed Action, discusses these factors. The need for the proposed improvements sets the stage for developing and evaluating possible improvement alternatives.

Alternatives Considered

WisDOT and FHWA developed and evaluated a wide range of alternatives. The alternatives were presented to the public and were assessed to determine their environmental impacts

and the extent to which they fulfill the purpose of the project. The initial range of alternatives considered includes the following:

- No-Build Alternative – No safety or capacity improvements would be made. Only maintenance and minor improvements would be performed. This alternative serves as a baseline for comparison to the Build Alternatives.
- Transportation Demand Management – This alternative strives to reduce the number of auto trips through increased transit ridership and other strategies. The public transit system element of *A Regional Transportation System Plan for Southeastern Wisconsin: 2035* recommends several ways to increase bus service in Milwaukee County.
- Transportation System Management – This alternative includes measures to maximize the efficiency and use of the highway system to help alleviate or postpone the need to expand capacity. The Transportation System Management element of the SEWRPC regional transportation plan recommends measures such as freeway traffic management (ramp meters, bus, and high-occupancy vehicle lanes on ramps) and intelligent transportation systems (advanced traveler information for transit and highway travel conditions).
- Build Alternatives:
 - Replace-in-Kind Alternative – The study-area freeway system would be replaced in its current configuration with three lanes in each direction, left-hand entrance and exit ramps, closely spaced interchanges, and no change in the horizontal or vertical alignment of the freeway or interchanges.
 - Spot improvements – Replacing the existing roadway and bridges in or close to their existing configuration while addressing safety issues that can be fixed with little or no new right-of-way acquisition.
 - Modernization improvements (6-lane) – Replacing the existing roadway and bridges and completely reconfiguring the study-area freeway system to address the safety issues described in Section 1, Purpose of and Need for the Proposed Action.
 - Modernization improvements with added capacity (8-lane) – Utilizing the modernization improvements alternative and adding one new lane in each direction to address congestion that is described in Section 1, Purpose of and Need for the Proposed Action.

Environmental Impacts

In most cases, the impacts of the Modernization Alternatives are greater than the No-Build Alternative and the other alternatives considered.

Exhibit S-1 summarizes the impacts of the No-Build Alternative, 6-lane Modernization Alternatives, and the 8-lane Modernization Alternatives (See Section 3 for a detailed evaluation). The impacts of the Modernization Alternatives are similar because much of the reconstruction could be completed within the existing right-of-way. Narrow strips of new right-of-way, totaling about 55 to 74 acres within the study area, would need to be acquired. WisDOT and FHWA would need to acquire 6 to 31 residences to implement the 6-lane Modernization Alternative. Approximately 6 to 32 residences would be needed for the 8-lane Modernization Alternative (see Section 2, Alternatives Considered, for a detailed description of the alternatives).

Economic Impact

One of the economic impacts of the Modernization Alternatives would be an expenditure of \$2.25 billion to \$2.31 billion in year-of-construction dollars for the 8-lane Modernization Alternatives and \$2.07 billion to \$2.16 billion for the 6-lane Modernization Alternatives. This amount represents the cost of designing the roadways, right-of-way acquisition, utility relocation, and construction cost in year-of-construction dollars. Replacing the study-area freeway system in its current configuration would cost an estimated \$960 million in year-of-construction dollars. This cost estimate includes the entire cost of reconstructing the 9-mile-long study-area freeway system (Lincoln Avenue to Burleigh Street, 70th Street to 124th Street).

Public Involvement

WisDOT and FHWA implemented an extensive public involvement program for this study. More than 300 meetings have been held with neighborhood, community, environmental, business, minority, and other stakeholder groups. Open house public information meetings were held in May and October 2008. Public information meetings were held at two locations: Tommy Thompson Youth Center (at State Fair Park) and Wauwatosa West High School.

While there is support for the project, areas of controversy include expanding the freeway system's capacity, potential residential relocations, and mitigating traffic noise in neighborhoods adjacent to the study-area freeway system.

Other Federal or State Actions Required

WisDOT and FHWA will apply to the U.S. Army Corps of Engineers for a permit to place fill in waters of the United States under Section 404 of the Clean Water Act. WisDOT will also request water quality certification from the Wisconsin Department of Natural Resources (DNR) under Section 401 of the Clean Water Act. WisDOT will coordinate threatened and endangered species impacts with DNR under state statute 29.604 and administrative code NR 27. WisDOT will coordinate with and obtain approval from the State Historic Preservation Officer under Section 106 of the National Historic Preservation Act.

Proposed Mitigation

WisDOT and FHWA will avoid and minimize impacts to the extent practicable. Unavoidable impacts will be mitigated to the extent practicable and allowable under state and federal law. Where there is no practicable alternative to filling wetlands, state and federal regulations require compensatory wetland mitigation in accordance with the *WisDOT/Wisconsin Department of Natural Resources Cooperative Agreement on Compensatory Wetland Mitigation*. WisDOT will continue to work with DNR to determine appropriate mitigation measures, if any, for state threatened or endangered species impacts. Residential and business relocations would follow federal law, which requires just compensation for residences and businesses displaced by a transportation project. WisDOT and FHWA will work with local officials and affected residents to determine the location of noise barriers in areas where the barriers are reasonable, feasible, and likely to be incorporated.

| | No Build/Replace-in-kind for entire project area | | Modernization Alternatives | | | | | | | | | | | | | | | | | | |
|--|--|-----------------|----------------------------|--------|--------|--------|----------|--------|------------------------------|--------|--------------|--------|--------|--------|---|--------|--------|--------|--------|--------|-----|
| | | | North Leg | | | | East Leg | | | | South Leg | | | | West Leg | | Core | | | | |
| | No-build | Replace-in-kind | N1 | | N3 | | E1 | | E1 w/ combined service drive | | E1/E3 Hybrid | | S2 | | S2 w/ EB I-94 access to Greenfield Ave. | | W3 | | | | |
| | | | 6-lane | 8-lane | 6-lane | 8-lane | 6-lane | 8-lane | 6-lane | 8-lane | 6-lane | 8-lane | 6-lane | 8-lane | 6-lane | 8-lane | 6-lane | 8-lane | 6-lane | 8-lane | |
| Total Cost (Design, Construction, Real Estate, Utilities, Contingency Cost (year of Construction \$ in millions) | \$0 | \$960 | \$630 | \$710 | \$710 | \$740 | \$270 | \$280 | \$270 | \$280 | \$270 | \$300 | \$160 | \$160 | \$170 | \$170 | \$190 | \$190 | \$820 | \$910 | |
| New Right-of-Way (acres) ^{1,2} | 0 | 0 | 26 | 27 | 16 | 17 | 7 | 7 | 5 | 5 | 8 | 10 | 3 | 3 | 4 | 4 | 11 | 11 | 20 | 23 | |
| Residential Displacements | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 19 | 20 | 0 | 0 | 6 | 6 | 0 | 0 | 5 | 5 | |
| Commercial Displacements | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 3 | 3 | 1 | 1 | 1 | 1 | |
| Public Bldg Displacements | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| 100 year floodplain crossings (no new crossings) | 2 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Floodplain (acres) | 0 | 0 | 0.1 | 0.2 | 0.1 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Stream crossings (no new crossings) | 3 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | |
| Wetland (acres) | 0 | 0 | 0.9 | 0.9 | 0.9 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | <.01 | <.01 | <.01 | <.01 | 0.7 | 0.7 | 0.0 | 0.0 | |
| Parkland (acres) ¹ | 0 | 0 | 0.6 | 0.7 | 0.6 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.2 | 15.0 | 15.3 | |
| Threatened and endangered species (Yes/No) ³ | No | No | Yes | Yes | Yes | Yes | No | No | No | No | No | No | No | No | No | No | No | No | No | No | |
| Primary Environmental Corridor (acres) | 0 | 0 | 0.4 | 0.7 | 0.4 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | |
| Primary Environmental Corridor Crossings (no new crossings) | 2 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Historic Sites Affected | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0-1 | 0-1 | 0 | 0 |
| Archaeological Sites Affected | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Environmental Justice Issues (Yes/No) | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | |
| Air Quality Permit | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | |
| Noise Receptors Impacted (Design Year 2035) ⁴ | 0 | 0 | 106 | 106 | 107 | 115 | 88 | 95 | 88 | 95 | 52 | 68 | <5 | <5 | 166 | 166 | 8 | 12 | <4 | <4 | |
| Potential Contaminated Sites | 0 | 0 | 13 | 13 | 13 | 13 | 3 | 3 | 3 | 3 | 3 | 3 | 5 | 5 | 5 | 5 | 10 | 10 | 6 | 6 | |

1. Total new right-of-way and parkland acres impacted does not include land for proposed stormwater retention/detention ponds.

2. In addition to right-of-way acquisition (not included as part of the new right of way total in this table), easements may be required for utility relocation as a result of this project.

3. The threatened and endangered species is the Butler's garter snake, located along the north leg.

4. To assist in noise modeling efforts, all noise receptors were assigned to a leg, thus no noise receptors were assigned to the core.

5. The south leg was only modeled with the eastbound I-94 access to Greenfield Avenue included.

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Abbreviations and Acronyms

Abbreviations and Acronyms

| | |
|--------|--|
| AASHTO | American Association of State Highway and Transportation Officials |
| ADID | Advanced Identification |
| APE | area of potential effects |
| BMP | best management practice |
| CAC | Community Advisory Committee |
| CEQ | Council on Environmental Quality |
| CFR | Code of Federal Regulations |
| CMAQ | Congestion Mitigation and Air Quality |
| Corps | United States Army Corps of Engineers |
| CSD | context sensitive design |
| dB | decibel |
| dBA | decibel A-weighted |
| DBE | disadvantaged business enterprise |
| DNR | Department of Natural Resources |
| DPW | Department of Public Works |
| EIS | Environmental Impact Statement |
| FDM | Facilities Development Manual |
| FHWA | Federal Highway Administration |
| FTA | Federal Transit Administration |
| FWS | United States Fish and Wildlife Service |
| HAST | Hank Aaron State Trail |
| HOT | high-occupancy toll |
| HOV | high-occupancy vehicle |
| I-894 | Interstate 894 |
| I-94 | Interstate 94 |
| kv | kilovolt |
| LPA | locally preferred alternative |
| LWCF | Land and Water Conservation Fund |
| MIS | major investment study |

| | |
|------------|--|
| MCTS | Milwaukee County Transit System |
| MMSD | Milwaukee Metropolitan Sewerage District |
| mph | miles per hour |
| MSAT | mobile source air toxics |
| NAAQS | National Ambient Air Quality Standards |
| NBI | National Bridge Inventory |
| NEPA | National Environmental Policy Act |
| NPS | National Park Service |
| NRCS | Natural Resources Conservation Service |
| PIM | public information meeting |
| PM | particulate matter |
| ppm | parts per million |
| SAC | Strategic Advisory Committee |
| SAFETEA-LU | Safe, Accountable, and Flexible Efficient Transportation Equity Act—A Legacy for Users |
| SEWRPC | Southeastern Wisconsin Regional Planning Commission |
| SHPO | State Historic Preservation Office |
| SIP | State Implementation Plan |
| TAC | Technical Advisory Committee |
| TDM | transportation demand management |
| TIA | Traffic Impact Analysis |
| TIP | Transportation Improvement Program |
| TNM | Traffic Noise Model® |
| TrANS | Transportation Alliance for New Solutions |
| TSM | Transportation System Management |
| TSP | total suspended particles |
| U.S. EPA | United States Environmental Protection Agency |
| US | United States highway |
| UWM | University of Wisconsin-Milwaukee |
| vmt | vehicle miles of travel |
| vpd | vehicles per day |
| WisDOT | Wisconsin Department of Transportation |